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## NEWS IN BRIEF

### French talk to Olivetti

FOLLOWING its talks with Hitachi (CW, February 28), French industrial conglomerate St-Gobain-Pont-a-Mousson has been holding talks with Olivetti. The discussions are believed to have been on office automation systems.

St-Gobain has an indirect stake of just over 10% in CIL-Honeywell Bull, and has ambitions to become the third power behind the French computer industry. The other two are the electrical and electronics giants Thomson and CGE.

### Calculator inquiry

AN inquiry into the use of calculators by students and the role of electronics generally in education is being undertaken by Texas Instruments. Heads of mathematics at 8,400 secondary and middle schools will be asked to complete questionnaires.

### Univac additions

TWO more models in the Univac 1100/80 bit-slice mainframe range have been announced in the US. Packaged to compete with the shared memory version of the IBM 4341, the models are dual processor versions with 2K-word rather than the standard 8K-word cache. They are expected in the UK shortly.

### Annabel freed

AFTER seven months in captivity Annabel Schild, who was kidnapped with her father and mother by Sardinian bandits last August (CW, March 20), has been released unharmed. Her father, Rolf Schild, is the co-founder of SE Laboratories.

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# COMPUTER WEEKLY

## MPs to get in-depth computer briefings

AN inquiry and research service for MPs and in-depth briefings on computer issues are new activities planned by the Parliamentary Computer Forum, following its formal establishment with a constitution and election of officers. How the inquiry service would work is not yet determined, but it would probably be run in co-operation with the British Computer Society.

The BCS has formally joined the Forum, and has appointed Alan Sutcliffe as its representative on the Forum Committee. Philip Virgo of the Wellcome Foundation has been elected chairman of the Forum, and Brian Murphy, head of Parliamentary affairs at ICL, is its secretary. The aim of the forum is to keep MPs, peers and civil servants

informed about computer issues (CW, October 11, 1979). According to Sutcliffe, the BCS is keen to have an established means of access to Parliament and Whitehall and a way of taking the initiative over matters it feels are important.

A team of speakers has been lined up for the Forum's next briefing at the Houses of Parliament, on micro and jobs, to be held on May 12. Jonathan Sleight, who produced the Department of Employment study, Professor Tom Stonier of Bradford University, Bob Parslow of Brunel University, and Conway Berners-Lee of ICL's corporate communications, will all be giving their views.

The next planned briefing is to be on public procurement, with industry

representatives from both sides of the preferential procurement fence.

The proposed inquiry service could be based on the BCS' existing activities, whereby questions would be sent from a central point to specialists, probably volunteers, who could give answers. Some questions could get different answers from different people, and the service would have to comment on why there were differences of opinion.

To deal with issues at a greater depth than possible in its full sessions, the Forum is also considering holding mini-briefings for MPs and their advisers, involving only about 10 people. Education will probably be the subject of the first of these.

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## Schools' Apple deal is caned

THE Apple Computer Dealers Association this week formally protested to Microsense, Apple's UK master distributor, about its latest marketing move in the education field.

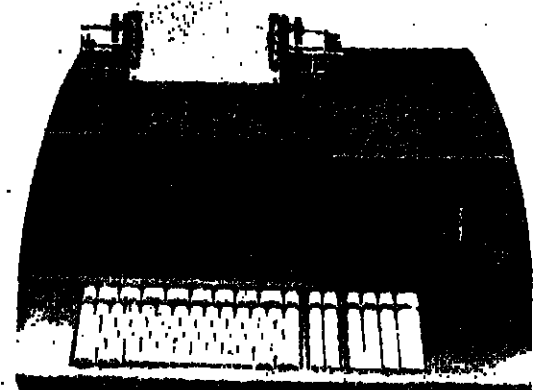
To coincide with the £5 million provided by the government for increasing the awareness and use of microcomputers in schools, Microsense had launched a promotional discount sales campaign which will allow schools to buy one Apple computer, with a range of peripherals and add-ons, at 25% under list price.

But to obtain this discount, the schools must buy direct from Microsense, rather than through a dealer. Dealers wishing to support the scheme will get a 5% credit on the invoice amount.

The dealers, in this country, are, according to association spokesman Alan Wood, concerned at what he called the high-handed approach of Microsense.

The association's fiercest letter stresses that the dealers will not support schools buying direct from Microsense.

A Microsense spokesman said he did not believe the protest had the backing of the dealers, adding that its move was a promotional offer running for a strictly limited period.



The Q1 Microlite desk-top computer.

## NCC seeks members' views on privacy

THE National Computing Centre is canvassing its member organisations to get their views on privacy — how important the issue is to them and whether there is a need for government action.

Particular concern has been raised over the danger of restrictions being imposed by foreign governments on data flows to the UK in the absence of any privacy legislation here.

The NCC is also interested to hear from others who are not members. Some sort of international agreement on privacy laws under the aegis of the EEC is needed to avoid controls that are too restrictive, according to the centre's new director, David Fairbairn.

Fairbairn expresses reservations about the Lindop proposals on data protection and says they

need to be looked at again, if only because it is two years since they were drawn up.

It might be more sensible, Fairbairn suggests, for the law to state clearly what information about individuals is accepted as being in the public domain, rather than for it to try to suppress information piecemeal.

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## Briefing Strike threat at PO centres

POST Office telephone billing staff members of the Society of Civil and Public Servants may take strike action at computer centres after Easter as a result of pay rises of between 21% to 26% awarded to supervisory members of another union, the Society of Post Office Executives.

The SCPS says that despite attempts to close the pay differential between its members and those of the SPOE the latest awards have only increased the gap. It is expected that a formal pay demand will now be made by the SCPS.

### Cary's successor

FRANK Cary, retiring chief executive of IBM, is to be succeeded by John Opel, president of the company, on January 1, 1981. Cary will continue as chairman.

### Sorry!

We apologise to readers and advertisers for the absence of many of our regular features and for the reduced news coverage in this issue of Computer Weekly. The cause was industrial action at our printer.

### \$1m China order

A \$1 MILLION multi-mini-computer system has been shipped to China by Automated Systems of Hong Kong. Installed in Peking the system consists of a network including two DEC PDP-11/70 minis, front-ended by two PDP-11/34s. Automated Systems says it has won orders for about 20 computers in China, all but one of them DEC minis.

### Case talks off

THE Case DCX Data Concentrating Exchange is to be built under licence in the US by Rixon Inc of New York, the company which supplies the British multiplexer manufacturer with low-speed modems. Paradyne, which supplies Case's high-speed modems, has failed to agree a new share exchange ratio for its proposed acquisition of Case (CW, March 20), and talks have been broken off.

### Aregon loss

AREGON, the NEB's viewdata system marketing subsidiary, turned over £1.8 million in its first ten months of operation to the end of 1979, but made a loss of £1.1 million because it writes off product development as it occurs.

### Cheaper printer

DAISY-WHEEL printer which can use either plastic or metal wheels interchangeably has been introduced by Diablo. Called the model 650, it will cost substantially less than current machines. The US OEM price for quantities of 500, for example, is \$1,705 as opposed to \$2,500 for the Model 1650.

## 'Entente cordiale' over viewdata...

AT the last minute, before the opening of Viewdata 80 in Wembley last week, the French PTT and the Post Office reached agreement on a reciprocal arrangement whereby facilities would be freely given for any demonstration of their respective viewdata systems in each other's country, subject only to the normal technical and safety checks. The Post Office was also granted permission to market Prestel International in France. The French had wanted an agreement which limited demonstrations to exhibitions of international

status, such as Viewdata 80 and last September's Informatics in Society seminar in Paris (CW, March 27).

The French delegation learned that they would not be allowed to attach their equipment to the telephone network to link to their Teletel database in Paris just three days before the exhibition was due to open. So they took their Sems minicomputer out of service and flew it over to London. When the agreement was concluded and telephone lines were laid on, rather than use them they continued to operate from the mini on the

exhibition stand and from a tape recorder in the conference hall.

A rather different hitch nearly prevented the Canadians from demonstrating their Teledon viewdata system. A few hours before they were due to demonstrate their system from a pre-recorded tape, the cassette recorder they were using disappeared — with the tape still in it. A hasty conversion job by the Canadian engineers enabled them to hook up to a telephone line, link to the database in Canada and conduct the show live. Viewdata 80 report: page 8.

# Leasing industry in Budget week turmoil

THE cheap computer lease deals that have proved a godsend over the last few years for local authorities short of capital for purchasing machines will soon be a thing of the past. Last week's Budget proposed that the capital allowances currently available to lessors on kit leased

to public sector organisations which do not pay Corporation Tax should be slashed from 100% to 25% in June.

Lessors will then no longer be able to offer lease terms that compete effectively with manufacturers' rental charges. One leading figure in the

operating leasing business, Parry Mitchell, chairman of United Leasing, estimated that lease charges to local authorities would have to go up by about 15%.

The move could affect something like £20 million worth of computer kit leased each year but it is unlikely to cause any overall drop in the level of leasing business. The big banks provide finance for leasing mainly to defer tax on their profits and the huge profits that they look like chalking up for the rest of this year will at least make them even more keen to provide lease finance.

Meanwhile in the US the

leasing industry is witnessing debt-ridden Intel in the throes of another major crisis as it tries to thrash out a new agreement with its lending banks that will enable it to carry on making repayments on unsecured debts. An Intel spokeswoman in San Francisco told Computer Weekly that the Intel would not be able to make any repayments over the next month unless a new financing package was agreed with the banks.

She also confirmed that the lack of an agreement was holding up completion of the deal with Lloyd's underwriters under which Lloyd's will take over responsibility for Intel's lease base in return for a payment from Intel (CW, January 24). She refused to comment on suggestions that Intel might sue Lloyd's if Intel goes bankrupt.

Intel's total debt is around \$1,200 million of which only about \$400 million is secured by assets, notably Intel's lease portfolio. Turn to back page

## 'Sinister' delays in Bundespost

A COMMUNICATIONS consultancy which is having difficulty with the West German post office over obtaining private data lines has called on any other firms which have encountered similar problems to pool their experiences in order to put pressure on the West Germans. The Bundespost has been trying to divert international traffic on to public lines (CW, December 8, 1979 and March 27), and this is thought to contravene international agreements.

According to Barry MacAdam of the consultancy Telecom Systems, he has been encountering "delaying tactics" from the Bundespost which he feels have "something quite sinister" behind them. To increase revenue from the public network the Bundespost is cutting off private lines where there is a parallel public service, but, says MacAdam, there is wide scope for interpretation as to whether the alternative can actually do what the customer wants.

Since the Bundespost has been negotiating with customers separately rather than making a public pronouncement on the matter, MacAdam thinks those affected should discuss their experiences together to see if a common approach can be worked out. He can be contacted at Telecom Systems on 01-251 4171.



## Ads aid the disabled

ALMOST £1,000 has been contributed to promoting the skills of the disabled in the computer industry by the Computer Advertisement of the Year competition. The cheque was handed to Geoff Busby, education officer of the British Computer Society's specialist group for the disabled, by Roger Frampton, chairman of Computermarket organiser Couchmead, at the exhibition last week.

Accepting the cheque Busby said, "The money will be used to promote the fact that disabled people can make a significant contribution to the computer industry. It is interesting to see that the largest number of advertisements entered are from recruitment companies. I hope that with this money and your help in the future we can fill many of these vacancies."

Busby said 10 disabled people would soon be finishing a 12-week TOPS course on Cobol and commercial applications at Queen Elizabeth's College, a college for the disabled. Pro-

spective employers could contact these students through the BCS.

The winning advertisement was from Digital Equipment. Peterborough Data Processing Services won the software section, Comshare the services section and DP Recruitment the recruitment section with an advertisement for staff for Legal and General.

In the picture Geoff Busby accepts the cheque from Roger Frampton. On the left is John Godley, managing director of Couchmead.

### INSIDE...

Computer interview on sterling ICL losses again  
Page 8 for programmers  
Transpac Mark II  
Micro News  
Software File

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## Harris goes into office systems market

HARRIS, best known in the computer business as a supplier of terminals for IBM users and powerful minicomputers for scientific and technical applications, is moving into the office systems market.

Harris' chairman and chief executive, Dr Joseph Boyd told Computer Weekly that a system based on multi microprocessors would be launched at the end of this year. He said that it would be aimed at offices within manufacturing companies, mainly because Harris was stronger in the manufacturing sector than in commerce. The software would be tailored to suit the administrative procedures employed by manufacturers.

Dr Boyd pointed out that the system would cost between \$15,000 and \$100,000 and would incorporate multiple Zilog Z80 chips.

It would make use of technology employed in existing Harris products such as facsimile transmission kit and the digital private branch exchange switchboards built by Farinon Corp of San Mateo, California, the firm acquired by Harris earlier this year (CW, March 6). The Harris effort in the office systems business should also be helped by its expertise in the newspaper text editing area, where it is a big supplier of composition systems, and in satellite communications.

In its fiscal year ended June 30, 1979, Harris derived \$182 million of its \$982 million turnover from what it calls information systems.

# MINICOMPUTER TOTAL

The world's most widely installed data base management system is used on DEC PDP/11 and VAX; HONEYWELL Level6; PRIME; PERKINELMER IBM System 34; GEC 4000 and ICL 2903/4/5 minicomputers.

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# Call for a training policy to fill jobs

IN recent weeks we have spoken at length about the difficulties experienced by those looking for a job in the computer business, be they TOPS students, graduates or already qualified people. However, recruitment can cause extensive problems for employers too.

A recruitment ad can cost anything between £60 and £2,000 and the expenditure does not stop there. Interviews, PER or Job Centre fees, staff salaries and many other incidentals are involved in the process.

Unfortunately, this system has become not an extravagance but a necessity, as more employers compete for a handful of suitable staff.

For this reason, 14 West Midlands firms decided to co-operate in the fight to reduce staff shortages.

Kalamazoo Business Systems of Birmingham set up talks with British Leyland, Lucas and the National Computing Centre and others in an attempt to find ways of solving the staff problem.

Methods of recruitment and training courses were discussed. Mervyn Farrant of K3 Software Services suggested that universities and polytechnics should be encouraged to attract the "best brains" into studying data processing in order to inject into the industry the intelligence it needed to cope with the required imaginative and sophisticated software solutions.

It was decided that industry, commerce and training establishments get together to consolidate a policy of providing the required number of entrants to systems and programming and to ensure that the training given was related to the needs of the industry — something they all felt was sadly lacking.

Doug Brown, executive data processing manager at Kalamazoo, said he believed this type of contact between establishments would be easier at a local level: "I would like to see local firms contributing towards a joint training scheme," he commented.

It has long been believed that the staff shortage in DP is due to a lack of experienced people and that the present state of TOPS and other courses will eventually alleviate the problem.

According to the Kalamazoo talks, this is not the case and the people presently being trained are not really suited to the needs of industry.

Do you have any alternative ideas and suggestions to combat the current staff shortage and the nightmares of recruitment?

## Puzzler

ONLY one three-figure number equals the sum of the factors of its own digits (ABC = A!+B!+C!). Can you find it before turning to page 22 for the solution?

Harking back to the pentagon dissection problem (Puzzler, February 21), Donald Bell, of Teddington, Middlesex, offers an alternative method based on bisecting one of the sides, at G, and then setting line JGF at the

# Standard of DP applicants 'going up'

DESPITE complaints about staff training and availability, one Birmingham company at least is more than pleased with the standard of applicant into the computer industry.

James Ross Associates, which runs a government-sponsored induction training course, has reported a noticeable increase in the standard of applicant. Robert Moscrop, education director of the

by Judith Morris

# Plenty for the programmer as ICL launches its 2903 replacement

ICL's ME29, announced last week as the replacement for the successful 2903 series, has plenty in it of interest to programmers.

The machine follows the trend set by Wang with its highly innovative VS computer and, to a lesser extent, by the IBM 8100.

A program development system called Dialog allows a programmer to interface directly to the Cobol or other compiler from a workstation. Programs can be submitted to the compiler and the results displayed on the screen.

The programmer can then use utilities such as the screen editor and text editor to amend the source code. Communication is via forms which are put up on the screen.

A typical 2903 user would normally submit batch amendment cards, which are more likely to lead to error.

Theoretically it would be possible to write all one's programs at the terminal, doing away with

coding sheets altogether; but ICL does not expect many users to go that far.

"Programmers are usually not the best typists in the world," comments ICL's Gordon Derham. "Usually we would expect the initial source code to be written on coding sheets and keyed in directly by data entry operators."

In addition, when batch systems are being developed, standard forms can be written into the job control programs, so that the user, such as a clerk in the payroll department, can fill in the details.

Another feature offered on the ME29 enables people developing teleprocessing systems to test them with a TP exercise which simulates the target network.

# CTL and CII-HB take on US array processors

BACK-END array and arithmetic processors from Floating Point Systems Inc. of Beaverton, Oregon, are to be offered with their respective minicomputer lines by Computer Technology of the UK and CII-Honeywell Bull of France.

The OEM contract with CII-HB, for FPS-100 arithmetic and AP-120B array processors to be sold with Level 6 minicomputers, is the biggest yet signed by the Oregon company, and is expected to lead to business worth between \$15 and \$20 million.

CTL adopted the FPS processors following an evaluation on behalf of the European Space Agency, which is a major CTL customer. Having linked the FPS array processor to a Modular One via a CAMAC interface, CTL did an integrated solution for the FPS operating system runs as an extension to CTL's Modus. The back-end processor runs under the control of this operating

# Language teaching on US viewdata

A LANGUAGE teaching processor is one of the novel features on Viewtron, a viewdata system being developed by a US publishing group, Knight-Ridder of Miami. Plans are nearly ready for a six-month trial which is likely to start this month.

Education is one of the main subjects that the group's viewdata team wants to cover and the language project is its first venture in this area. The teaching processor includes frames containing instructions and others carrying exercises. The user has a keyboard unit linked to the TV with which words are typed in and compared with the correct answers stored in the system.

Viewtron is based on a Digital Equipment Vax system for which the Knight-Ridder team has prepared its own software. The trial period will be based on 30 terminals which will be moved around among about 200 families.

Unlike the trials in the UK, the Miami tests will not cost the users anything. Even telephone calls to access the system will be free. It is thought that this free trial will provide the purest test of the attraction of the information. The system also logs patterns of usage enabling the value of different types of information to be assessed.

Video terminals use 40 characters on each of 20 lines, as opposed to 24 lines on the UK system, because American television has only 525 lines on the screen compared with 625 in Europe. The normal ASCII character set is used, with the six-cell graphics characters as on Prestel. Transmission to the terminals is also at 1,200 bps.

At present there are 22 information providers.

Other features include a facility to keep track of orders coming in in response to frames alling for a response.

**ERA micro study**

ERA Technology of Leatherhead, Surrey is to study the performance of microprocessor systems, starting May 1. It will last a year and the report will be available to subscribers only.

## First ICL connection

FIRST connection of an ICL computer to the Transpac network has been made. Ironically not in France itself, but in Monaco. The connection has been made to allow Radio Monte Carlo's Paris office, equipped with an ICL 7600 surface terminal, to communicate with the Principality's radio station's ICL 2905 computer at its Monte Carlo headquarters.

ICL's solution to the problems of linking to Transpac enable both the displays in Paris to communicate over a single switched virtual circuit. It also allows the user to send traffic over Transpac, over the switched network or over leased lines, without the need to be aware which carrying medium is being used.

# Second generation Transpac by 1982

WHILE the UK still struggles to get its first generation X25 packet-switched network into service, the French government department in charge of telecommunications is opening consultations about a second generation of the national Transpac network, to begin service at the end of 1982.

## Sweden to develop research swap link

SOFTWARE to enable European countries to set up online information exchange systems for scientific researchers is to be developed in Sweden, under a contract just arranged via the EEC.

The work is part of the Cost 11 project (European Co-operation in Science and Technology) and the contract, to implement a portable package usable in any country, has gone to Swedish software house Enea Data.

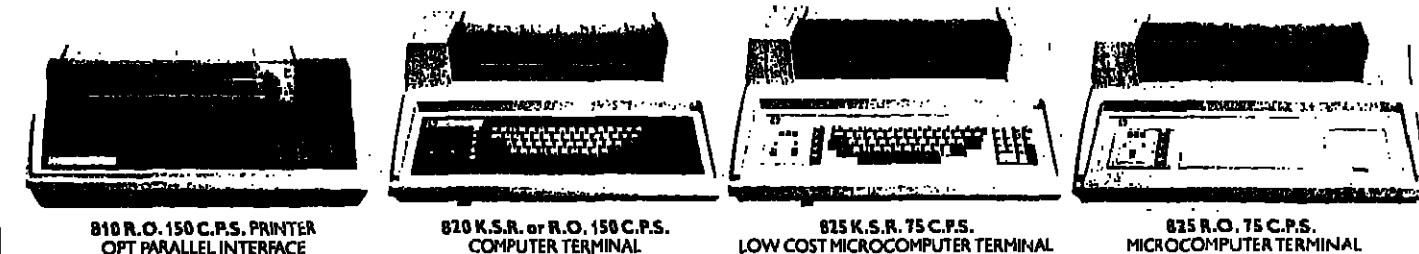
The system will be similar to the US Electronic Information Exchange System already running (CW, April 26 1979) and will enable researchers with terminals to send messages to each other with a "mailbox" system and take part in "computerised conferences." In these, each participant adds remarks to a continually expanding text that all the others can read whenever they choose to log on.

Enea Data is planning to call its software Eurocom, as it will be based on an existing package called Com developed at the Swedish National Defence Research Institute. It will be up to individual countries to take the software and actually set up working systems.

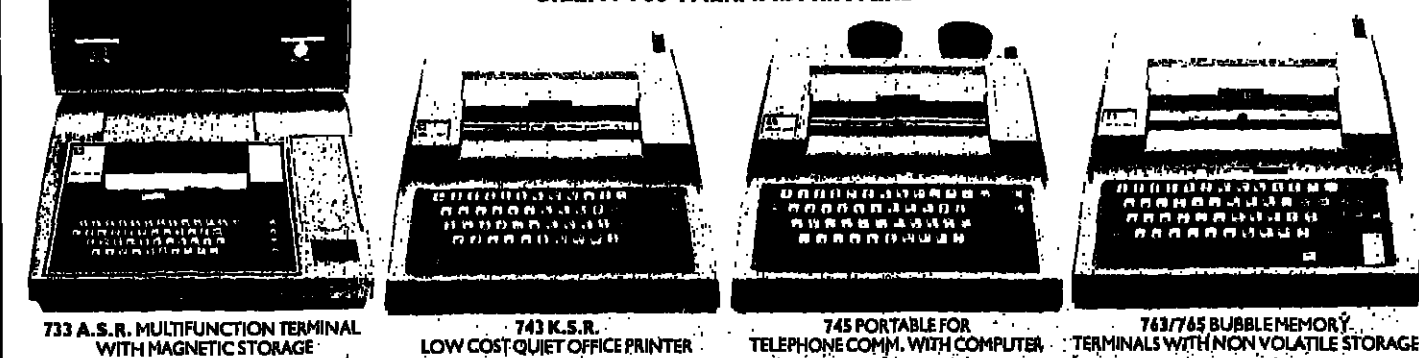
French observers point out whenever Motorola semiconductor products are used or specified that Thomson of France and Motorola are in close collaboration in building up an independent French microelectronics capability. It has been suggested this is the principal reason that the Motorola 10800 ECL bit-slice microprocessor is

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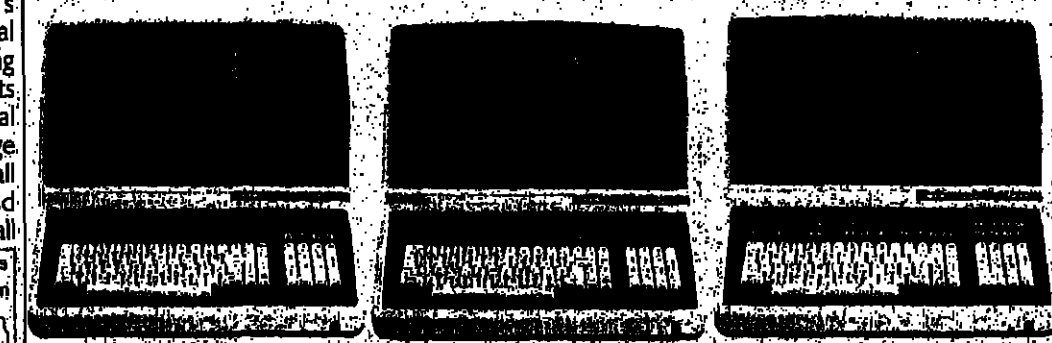
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## MICRO NEWS

by Martin Banks

## Z8000-based system hived off from Zilog

PARENT company of Zilog, Exxon Enterprises, has transferred the development of its Z8000-based 16-bit microcomputer system from Zilog to a separate division called Summit.

A reason given for this is that the move is a "structural change" within the company designed to allow Zilog to concentrate on the development of its 8-bit Z80A-based second generation small business system, the MCZ-2, soon to be introduced.

Although the transfer involves the movement of all personnel associated with the Z8000-based project, Zilog stated that this would not jeopardise the development of the MCZ-2 system.

"We have several staffs of engineering and software specialists that are not associated with the project," said a spokesman for Zilog. "All people moving to

Summit have nothing to do with the development of MCZ-2."

Work on the project began at Zilog in November 1978 when it was itself known as Summit. Now, according to the company, the fate of the project, and the Summit division, will be decided by Exxon on completion of the development. It is possible that the project may be returned to Zilog for administrative and marketing purposes.

Summit is considered by Ex-

xon to be purely an R&D establishment with no administrative or marketing capabilities. On completion of the development project it may become a company in its own right or form part of another. Exxon will give no details as to the type of R&D it will be doing.

MCZ-2, which was code-named Aerial at the program stage, uses some of the Summit project architecture as applied to an 8-bit chip.

## ACT extends into Apple software

MIDLANDS services group Applied Computer Techniques is expanding from Pet software into the software market for the Apple II microsystems with the opening of a new software house called ACT Appleware.

The company has obtained 70 of the top selling Apple programs in the US from seven major US Apple software houses including Personal Software and Program International. Available on

separate discs, program prices range from around £8 up to £125 for Visicalc, a powerful visible calculation program. ACT is also developing its own business package for the Apple.

ACT Appleware will be supplying software to all Apple dealers in the UK with the co-operation of its master UK distributor, Microsense. It will also be supplying direct to users via mail order with a normal turnaround of 48 hours.

## First French development system is government backed

THE first French-designed universal microprocessor development system has been announced by Eurosoft of Paris. Called Star, the system was developed in conjunction with France's Centre National d'Etudes Spatiales, CNES, and supported by the French Industry Ministry.

A feature of Star is that it is designed to run on any mainframe or minicomputer with either Pascal or APL on it. Star comprises the usual ele-

ments of an editor, a library management module, assembler, compiler and a link editor. It is particularised to the chosen microprocessor by means of a table generator which enables the user to create his own version by description of the characteristics and instruction set of the chosen microprocessor.

Already available are systems for the Intel 8080 and 8085, while the 8086 system is nearly ready. On the way are versions for the Motorola 6800 and RCA 1802.

Star includes a simulator for first-level verification of the syntax, and comes with a development terminal. This consists of three standard Intel SBC boards, one for running the console and interfacing with the host computer, a second, with a local text editor, which controls the interactive stations, up to three of which are supported at present, and a third for controlling the local peripherals — a printer and a PROM writer.

All the software is re-entrant, so that different terminals can

simultaneously be running program design and editing, compilation, remote loading and real-time emulation for the target micro.

Star is at present running on a Control Data mainframe. In the French market it will compete with four other universal development systems: Hewlett-Packard's 6400, Tektronix 8001/2, Philips' UDMS and GenRad's AMDS. Selling points over these are claimed to be flexibility in that it can be run on an existing system, and can be tailored to a new micro by the user.

Development costs totalled three million francs, about £330,000, of which FF 1.3 million came from Eurosoft, FF 1.2 million from the space development agency, and FF 600,000 from the Industry Ministry.

The one-time licence costs between FF 50,000 and FF 180,000 depending on how many modules are taken. The hardware costs from FF 80,000 to FF 250,000, and is also available on lease and rental.

## Small business system implemented on site

FULLY Integrated Business System is the name given to both a new Birmingham-based company selling into the small business computer market, and the product it sells.

The product, a linked suite of some 165 individual business programs running on a microprocessor system is defined by John Metcalfe, the company's chairman, as a system offering totally interactive software. "Every file is completely linked to every other file."

Included within the price, £16,500 for a complete system, is an extensive on-site implementation program that is carried out by the company in association with management consultants Coopers and Lybrand. Four weeks are spent setting up the system in the customer's environment to ensure that he has a comprehensive understanding of the system operation.

System hardware comprises Data Terminals and Communications' Type 10 8-bit microcomputer, which is based on the Intel 8080. DTC, however, will be introducing an alternative module in about eight weeks which is based on the faster 8085.

The Type 10 is backed up with

64K, expandable to 256K, of RAM, dual floppy discs of 800K bytes and an optional 10-megabyte hard disc system, with five megabytes fixed and five removable. Four terminals can be run simultaneously with any combination of VDU and printer.

Although the Microsoft multi-user Basic can be tailored to suit individual customers' needs, the interlinked program suite is aimed at providing the user with full control over accounts and business administration.

Any data input made into any of the programs or files of the suite automatically updates all the other files. For example, entries into the sales ledger can be used to generate invoice production, amend the finished goods stock file, work in progress file and on down to re-ordering materials from suppliers.

All the programs in the suite are either directly or indirectly linked into a nominal ledger program. Through this it is possible for the system to generate a trial balance at any time, together with a full profit and loss account, and complete balance sheet.

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## SOFTWARE FILE

by Claire Gooding

## TPS extensions a threat to VME/K

HOT on the heels of ICL's ME29 series launch (CW, March 20) the Oxford firm Telecomputing has announced details of a major extension to TPS, the TP monitor, which has over 300 ICL users worldwide.

Telecomputing's chairman Bernard Panton identified two main problem areas for ICL users wishing to develop functional TP systems: "The worldwide shortage and escalating cost of systems designers and programmers, and general concern on the delays to VME/K."

Called TPS3, it is due for general release in mid-1980 and is designed to deal with these problems. It provides a new TPS format and screen language system, said to eliminate the need to write Cobol application routines for inquiry, data capture and similar everyday tasks, as well as Cobol macros and an implementation of the VALIDATE function.

The second problem at which TPS3 is aimed is one peculiar to ICL users: the now notoriously elusive VME/K. Telecomputing claims that the enhanced TPS3 is portable and capable of performing efficiently in both DME

and VME environments, thus attracting users who are hanging back for VME/K rather than developing TP systems on existing DME which will later have to be converted. The release is paving the way for a full-scale highly developed query language, along the lines of IBM's Query-by-Example.

Moving on from VME/K, Telecomputing identifies its failure as the reason behind ICL's announcement of the ME29 series and its continued use of the 24-bit word and the Plan instruction set.

In the company's magazine *Telefile*, Telecomputing attacks the announcement of the ME29 as a stopgap move designed to hide the lack of advances made in ICL's software. "ICL will claim a new transaction machine environment (TME) which will in fact be a thin veneer not able to hide for long the EMOE base of the environment — that is the system which is currently used as the 'executive' on small 1900 and 2903/4/5 systems."

"Internally ICL accepts that TME = PAL 2903 (Prolong the Active Life of 2903) and no new

software is planned for 1980 and 1981."

ICL quite openly said, when launching the ME29, that TME was based on existing "well proven" software, and was highly reliable for that reason.

However, the leaf addressing mode was claimed as a major breakthrough in software technology, which aims to give flexibility in the evolution of facilities by separating code from data.

In response to Telecomputing's suggestion that TME showed few advances in software, an ICL spokesman pointed out that the ME29 has novel and extensive networking facilities. "TME incorporates new, fully integral teleprocessing software, and there will be no need to use external TP monitors on the ME29."

## Sales boost from inflation

THE impending recommendation from the Accounting Standards Committee on inflation accounting has boosted sales of one of the longest running fixed asset accounting systems, Fascia, marketed by RTZ Computer Services.

The statement of standard accounting practice, SSAP-16 is to be announced at the end of March, and RTZ says that orders worth £85,000 have been received so far this year.

## Spanex updated

VERSION 3.2 of Spanex, the error recovery and job networking monitor from Span Software Consultants, has been released. Options include scheduling of jobs by user program calls, password protection for network control commands, and the extension of the restart facility to TSO users. The product supports OS/VS1, SVS and MVS operating systems.

## Cullinane replaces ICL in South Africa

FOLLOWING several sales into the IBM market in South Africa of IDMS and associated products such as Culpit (Software File, February 7) Cullinane is to withdraw its licence from ICL South Africa in favour of a newly-formed company, Computerson, set up last week in Johannesburg by a trio of ex-ICL men.

In a year of increased revenue and geographical expansion, Cullinane has also made significant additions to its product range.

The launch of Integrated Data Dictionary Release 2.0 was part of a strategy announced at the last year's conference (Software File, December 13, 1979) to remodel and co-ordinate its range of products around the dictionary.

Release 2.0 of IDD put the emphasis on security and extended the data dictionary definition language so that the

user can customise syntax by adding an unlimited number of keywords.

It has been followed by two new Cullinane products: the Universal Communications Facility and the DL/1 interface.

Cullinane claims to be the first software firm to provide a facility such as UCF, which is said to allow IDMS-based applications to run under any teleprocessing monitor without modification.

It is said to lower CPU time while giving the user quicker response at the terminal, and increase programmer productivity through use of simple Cobol-like commands for database manipulation and terminal operations.

The DL/1 interface, called Escape, allows transition from DL/1 to IDMS environment by translating DL/1 calls into IDMS requests at execution time.

## Unix op system to help with Z8000 development

THE multi-user time sharing operating system Unix, developed by Bell and popular among Digital Equipment users for its flexibility, is to support Zilog's new cross-software package for the 16-bit microprocessor.

The package will enable the user to develop code for the Z8000 using PDP-11 systems and will be available in April. It includes a compiler for the C programming language, a code optimiser for the C compiler, a Z8000 assembler, a linker and an upload/download program compatible with the Z8000 development module.

The package was developed to allow Z8000 users access to a

larger system for software development, and as many customers already had access to PDP-11s, Unix, with its powerful software tools, editors and file handling, seemed the obvious vehicle.

The package is said to need about 250K-bytes minimum to run, and costs about £5,000 to users who already have access to Z8000 and PDP-11 hardware.

## Garage buys Easi

THE CARS Easi system released by Commercial Inventory Service for use on the Data General Nova has been bought by the Volkswagen/Audi and Mercedes dealer Goodlife Garages.



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## VIEWDATA 80 REPORTS BY DONALD KENNETT AND RORY JOHNSTON

## French innovations lead the way

VIEWDATA 80 attracted over 60 exhibitors and, when the Canadian participants changed their minds just four weeks before the show and decided they wanted a stand, there were none left.

But the French were there in force demonstrating and talking about how they were integrating their Teletel viewdata system into their national programme for Telematique — computing and communications services of all kinds. "Agguying" them and making them all compatible with each other as far as possible.

Teletel could be displayed on Teletel which would be able to use the low cost facsimile devices

For hard copy. The electronic telephone directory will be held on Teletel and Teletel will use the Transpac packet switching network and the optical fibre network due to begin tests in Biarritz in 1982.

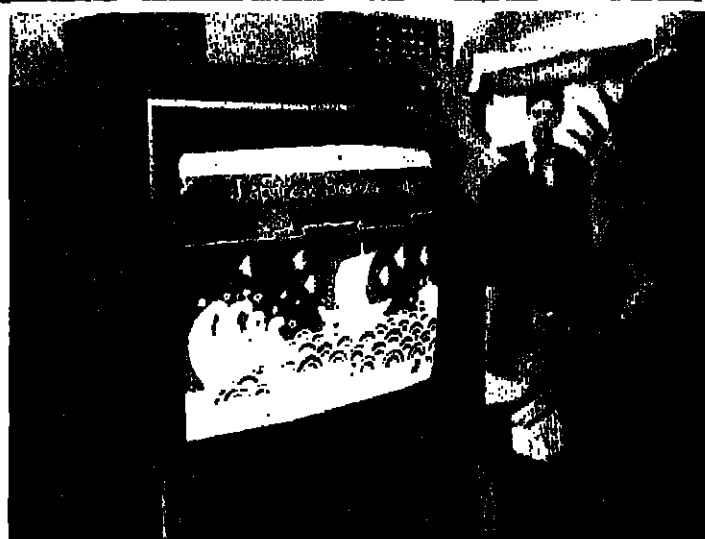
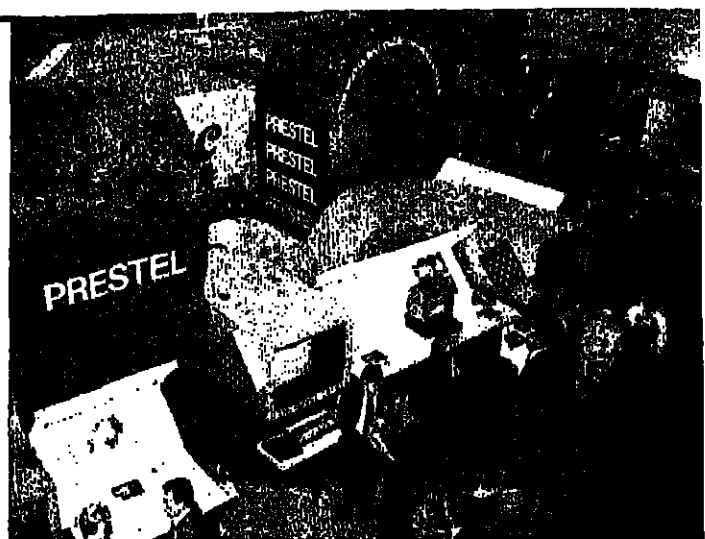
Teletel is compatible with Teletel and could use Transpac although it was better suited to the Didon data distribution network consisting of microwave links and digital VHF television channels. And the Teletel 1 satellite would enter the same scene in 1983.

To carry the message abroad and seek collaboration with organisations in other countries, the

International marketing organisation was launched at the show, headed by Roy Bright who up until last year carried the message abroad for Prestel.

It is in fact the re-naming of the five month old Sopitel organisation, but the new name was thought to be more self-explanatory — International telematique.

● The Prestel stand (pictured right) at Viewdata 80 proved to be popular and the Post Office was able to respond to its critics and its rivals by demonstrating colour photographs on a television screen.



The Japanese Captain viewdata system with about 3,500 keys on it.

## No typists needed for Japanese system

TOUCH typing is not a requirement for information providers on the Japanese Captain viewdata system (pictured left) as the keyboard has about 3,500 keys on it.

Most of these are Kanji Chinese characters, but there are also Katakana and Hiragana Japanese characters, alpha-numerics and special symbols.

These can be selected in three sizes fitting into a block half-block or sub-block. Graphics can be composed freely on a 248 by 208 matrix using cursor controls and colour selectors or in-putting from paper via a facsimile machine.

Facsimile input and transmission down the line both use one bit per picture-point to define pattern or background and colour is added afterwards on the sub-block matrix of 31 by 17.

At the user end, images can be scrolled or displayed page by page and images can be modified by sending new data only to the parts that are to be changed. The user terminal has a simple numeric keypad for menu selection or page addressing.

The full complement of 1,000 terminals reached the field at the end of last month for a one year trial which is to be evaluated before a commercial service starts at the end of next year. By then television set adapters are expected to cost £200.

The trial is free to users, sponsored by the Japanese Ministry of Posts and Telecommunications with Nippon Telephone and Telegraph.

The current 35,000 pages on the system are being built up to 100,000, provided by 165 companies including newspapers, department stores, travel and advertising agencies and banks.

## Post Office replies to Prestel critics

PRESTEL responded to its critics and its rivals at Viewdata 80 by demonstrating the highest resolution graphics possible on a colour television — colour photographs (CW, March 20).

It also demonstrated an intermediate measure, dynamically redefinable character sets, which is used on many personal computers. And with software house CAP-CP it demonstrated teletext.

But Dr Alex Reid, who this month moves up from being director of Prestel, and Keith Clarke, head of R&D, both still stick to the view that the market is not yet there for these refinements and is best served by the simplest possible service.

Meanwhile there have been enough disagreements internationally on details within the simplest possible service.

Now a set of compromise standards is on its way from CCITT according to several speakers from different countries. It is not ready yet but is expected in June and should accommodate all existing services.

Standards discussions got off to a slow start, but stimulated by the Post Office pushing towards a live service and other coun-

tries speeding up development of their systems much progress appears to have been made.

Many people expect future developments to head for convergence in about five years, with conversion to enable inter-working between systems as an interim measure.

Also on display was a coin-operated Prestel system (pictured below, left).

The Post Office is now promoting Prestel strongly through advertisements on television at prime times and full-page advertisements in national newspapers.

This publicity campaign, plus the huge stand at Viewdata 80 last week, shows that the Post Office is pulling out all the publicity stops to promote its Prestel service.



ABOVE from Balldata comes not a Space Invaders TV game but a coin-operated Prestel set, for installation in hotels, stations and other public places.

RIGHT — displayed on the French telecommunications stand were five prototype telephone directory terminals. This is the Tello from CIT Alcatel.

FAR RIGHT — two other contenders for the French PTT's lucrative directory terminal contract were from Matra (left) and TRT (right).

## Nato picks picture system

The Shape computer centre operated in Holland by Nato has chosen the picture description instruction display method used in the Canadian Teldin system for its viewdata communications network.

Peter Drake, who is on secondment to the centre from the Post Office, told delegates at the conference presentation that several systems had been evaluated last year and the PDI method had emerged as by far the most useful technique available, especially for maps. The system had been operational for the last six months. He believed there was a very large market for the PDI concept.

Jack Fraser of Bell Canada said high resolution graphics was a necessity for business and claimed that the efficiency of the PDI method made average frame costs lower than with dot transmission methods.

Herb Bown of the Canadian government Department of Communications said that, although automatic picture generation was more difficult with the PDI or alpha-geometric method, pattern recognition techniques had been well proven in the laboratory with automatic PDI generation and could soon be added to the system.

Bown said the prototype IPS 1 terminal had cost \$30,000, but IPS 2 would cost \$18,000.

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Microprocessor

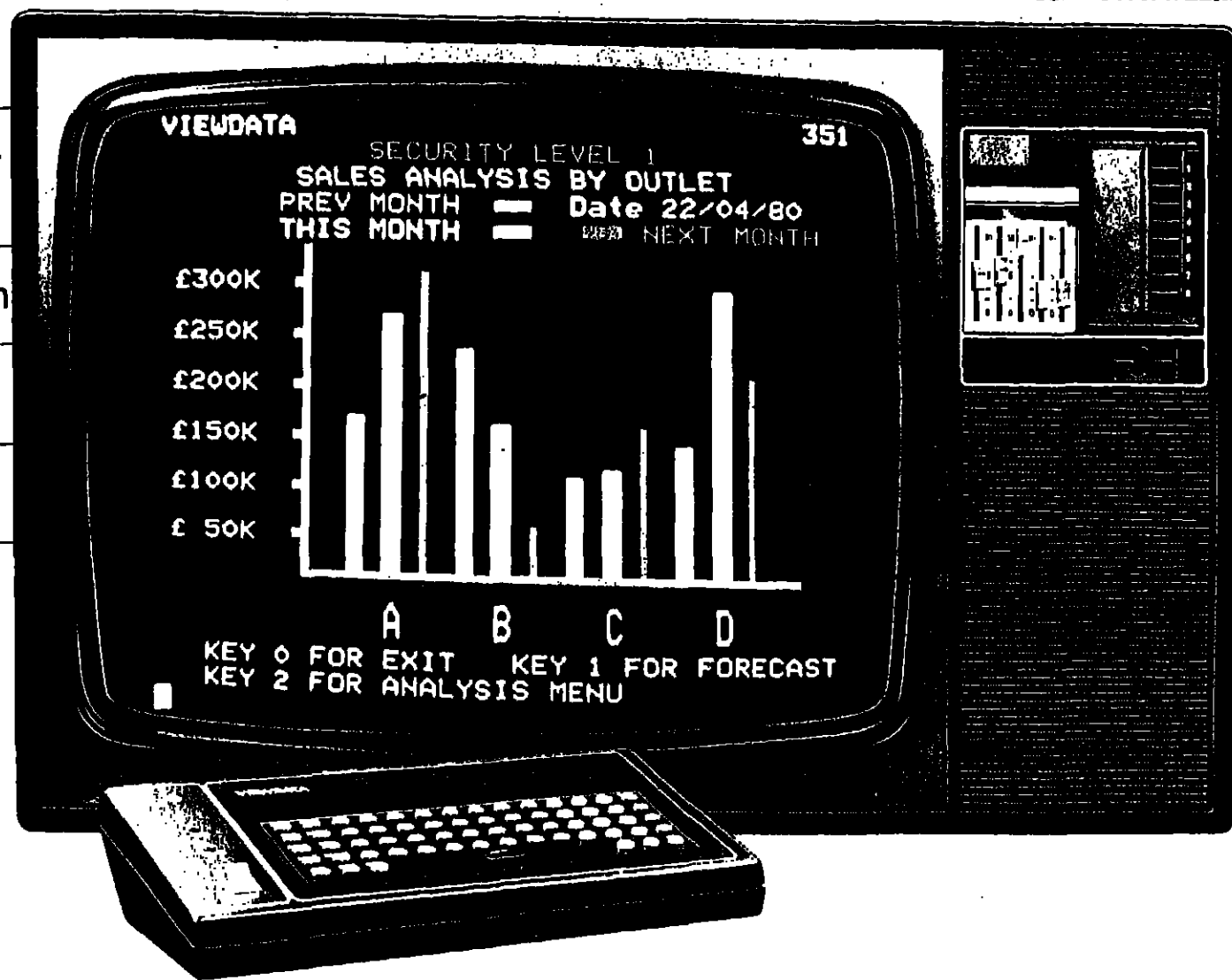
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Inter-active private viewdata

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PRESTEL\*

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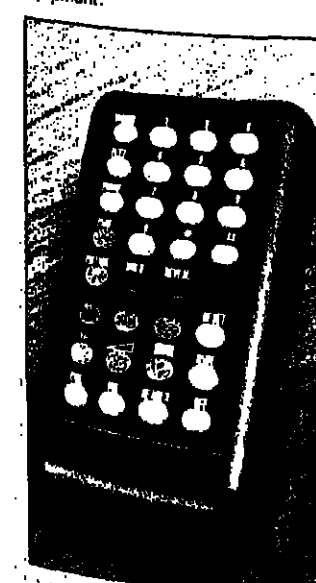
Terminal-to-terminal communications

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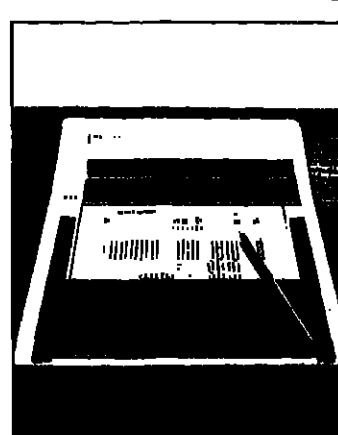
It's also the most spectacular feature of the remarkable new Integrated Office System from Redifon — the first system to combine advanced television technology with established computer and telecomms techniques, and so to provide everything conventional terminals can (distributed data processing, data entry, data processing, word processing) plus viewdata facilities (including private viewdata) plus advanced data communications.

## Sounds impressive? Look at the rest of the system!

As well as Viewdata-Plus intelligent TV computer terminals, the system also includes the following equipment:



Infrared remote control  
Enables non-computer staff to select public and private viewdata.



## Writaway hand-print terminal

All characters (alpha, numeric, symbols) are written onto a writing pad, with pen or pencil. Writaway converts these characters into ASCII code for interface into the information handling system. The handwritten copy provides a record of all information entered.

Writaway also has one line of display. Where this is insufficient, the command 'Look at your TV' may, of course, be used.

## Printers, word processors, other peripherals

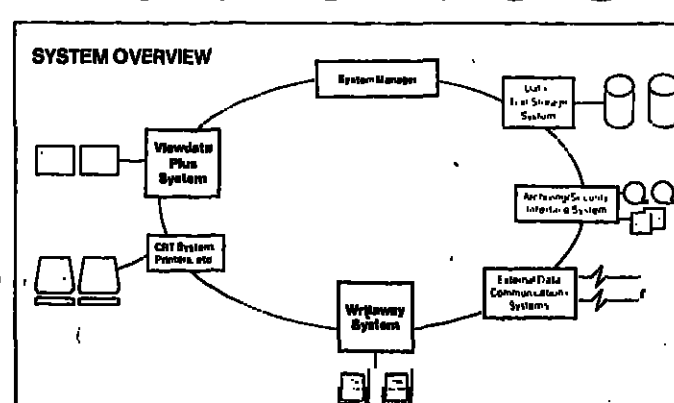
Configurations are possible using all equipment commonly available as part of the CRT system.

## Unique software

Based on the 'sole user' principle, the software allows each terminal to act as if it were the sole user of the total system resources. This allows private viewdata to be completely interactive.

## System manager

The heart of the system, combining central processor, central storage unit and magnetic tape unit in a single upright unit.



## Does everything terminals can, plus many things terminals can't!

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5. Automatic dialling. Each intelligent TV terminal has a telephone number memory, an auto-dial unit and an embedded modem for fast, simple, secure communications.

## Mix and match to suit every level of your organisation

Choose your hardware  
A system may incorporate Writaway terminals, Viewdata-Plus TVs, and CRTs. Each Viewdata-Plus terminal may have a full keyboard, or simply an infrared control — so you can tailor each station to suit your requirements.

Choose your software  
The system does not have a conventional operating system. Data management, data communications, data processing, physical and logical device handling are controlled by management software. For security, the system easily accommodates restriction of access to confidential data.

## A new level of convenience in information-handling

A network of low-cost, full-colour, all-function computer terminals had to come — and here it is. Such a network makes sound commercial sense — particularly when the equipment is user-friendly and easy to learn on. In-house computer training and communications, external networks of dealers, agents, customers... the range of valuable applications is open-ended.

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— which means first-hand knowledge of viewdata technology and in-house TV manufacture. Put them together, and the outcome is unique capability to produce a unique system

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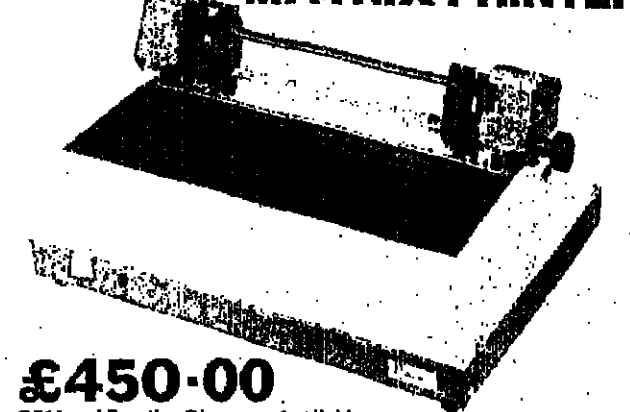
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further particulars may be  
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#### Systems Programmers

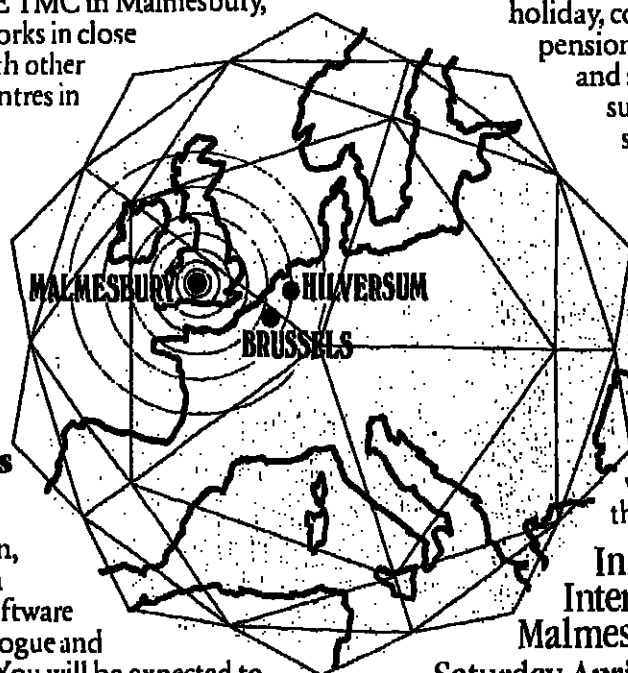
This job entails the design, implementation and testing of software for modern analogue and digital systems. You will be expected to participate in group meetings at our other development centres throughout Europe. Applicants will normally hold a degree or similar qualification in a relevant technical subject. In addition two or three years programming experience in scientific or control systems is desirable.

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Malmesbury -  
Saturday, April 12th

We will be holding informal interviews at our laboratories in Malmesbury on Saturday, April 12th between 9.00 and 1.00 p.m., so why not come along for a drink and a chat and a look around. Naturally we will pay all reasonable travelling expenses. If you can't make this date, or require further information, please telephone Harry Constantine on Malmesbury 2861, extension 266, or write to him at PYE TMC Limited, Swindon Road, Malmesbury, Wiltshire.

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Applications are invited for the above post from candidates possessing good Honours Degrees in Computer Science, or a related discipline, who have had research or industrial experience in Information Processing Applications, Scientific Industrial Applications, Computer Graphics or Theory of Computation. The successful candidate will be expected to undertake teaching at both undergraduate and postgraduate levels and to contribute to the Research of the Department into the design and performance of application oriented computer systems. Post available from October 1st, 1980, or a date to be arranged. Initial salary within the range £5051-£8082 p.a. Superannuation. Further particulars and application forms (returnable by June 27th) from the Registrar, The University, Manchester M13 9PL. Quote ref: 88/80/CW (389)

#### BOX Nos.

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Box No. 3 - Stamford Bay  
Box No. 4 - London SE 1 1X

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The initial appointment will be for three years and the salary will be in the range £10,142-£12,864 p.a.

Further particulars and application forms may be obtained from the Registrar, The University, P.O. Box 147, Liverpool L69 3BX. Closing date is 11 April, 1980. Quote ref: RV/888/CW.

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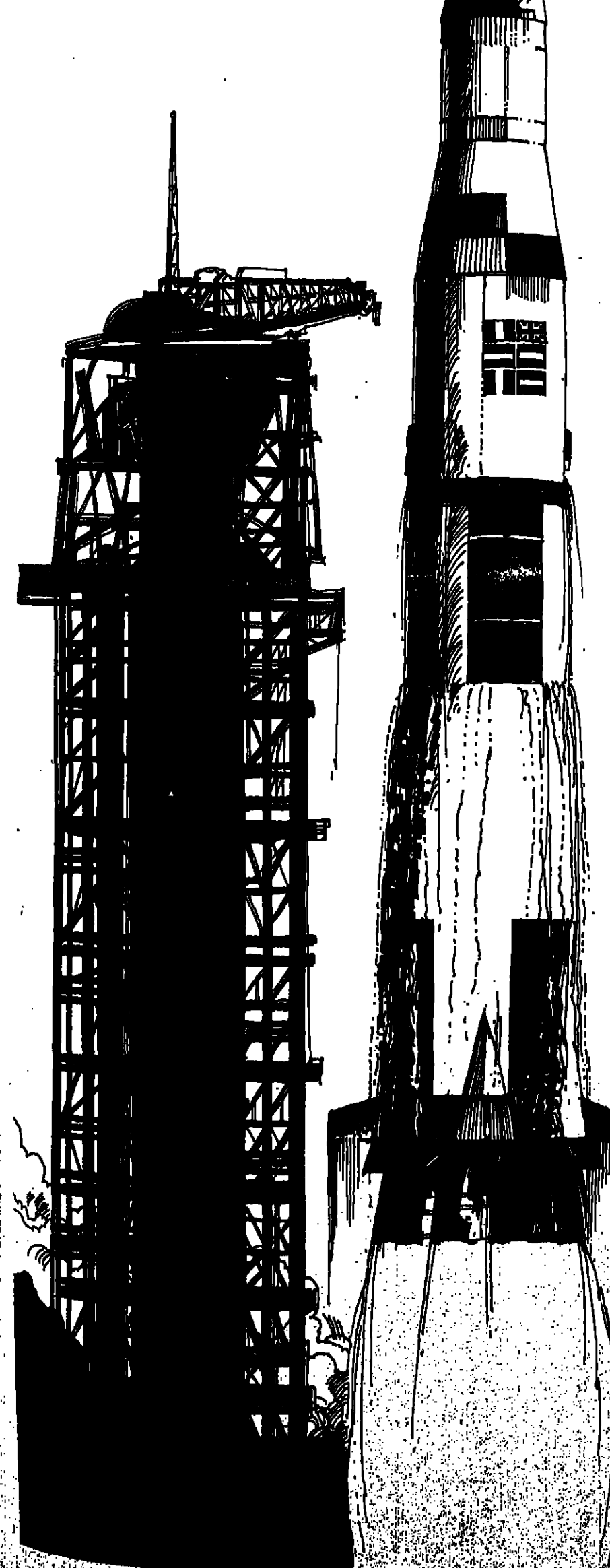
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# MARCOL

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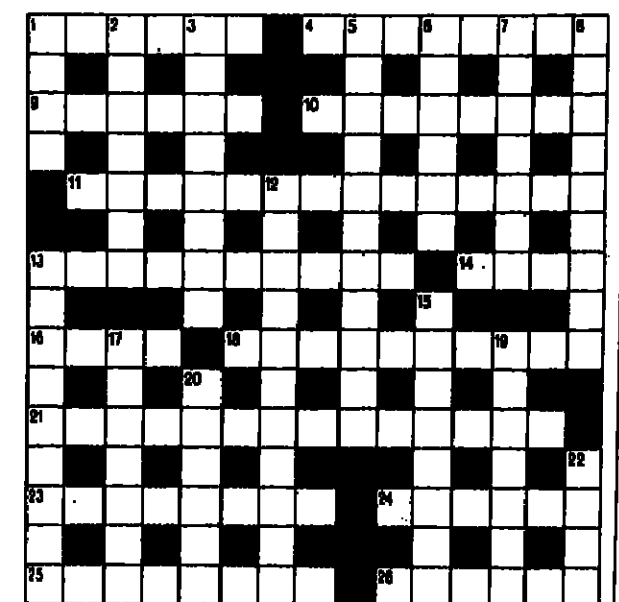
01-402 9355



# CW Prize Crossword No 4

Compiled by Alec Robins

A PRIZE of £10 will be awarded for the first correct entry opened. The second and third correct solutions opened will receive £5 each. Entries to Crossword Competition, Computer Weekly, Dorset House, Stamford Street, London SE1 8LU, by first post Friday, March 14. Please use a ballpoint to complete the crossword.



Name ..... (Miss, Mrs, Ms, Mr)  
Address .....  
Telephone .....

I accept the rules and conditions of the Computer Weekly Crossword Competition.

Signed ..... Date .....

- ACROSS**
1. Tough gets to steal from post thoroughfare (6)
  4. English parliamentarian, I chat foolishly, full of stress (8)
  8. Long garment with which one has feet protected in the vessel (6)
  10. Flower you've to plant around the North before the fall (8)
  11. Intend, in craze for a song, to show real evidence of success (4,3,7)
  13. To replace a spirited fellow in the team is to blunder horribly (4,1,5)
  14. Not so much exercise on going out (4)
  16. Type of pistol used in emergency that's extreme (4)
  18. Still silent, so MO is worried (10)
  21. A pensioner, an auntie plied with grapes (14)
  23. More liable to ring us, being unable to fly (8)
  24. The man is accepted in the race, one that believes in God (6)
  25. Made beloved stop getting attention standing by the editor (8)
  26. The head takes part in pupils' concert (6)
- DOWN**
1. The hard stuff makes one stagger (4)
  2. Type of ox, light yellow one - see! (7)
  3. Place where astronauts buy drinks? Typists use it a lot (5-3)
  5. An energetic chap, the scholar overlooks no contentious party (3,2,6)
  6. Hot water jugs for the fellers (8)
  7. It's wrong having to endure endless infliction of great pain (7)
  8. Trees in city's outskirts attracting crowds (9)
  9. Excitedly agog, we run RA type of railway (6-5)
  12. Plunder obtained by Hindu god, say (8)
  13. Lawless one, the reverse of organised and smart (8)
  17. Lay in the tall grass and considered (7)
  19. High spirits shown by nephew, for instance, throwing cap away (7)
  20. Fur, to warm and dry vessel that's capsized (8)
  22. The way ahead of you is an eyesore (4)

**Rules and Conditions**

1. Each competitor may submit no more than one entry.
2. The competition is open to all readers of Computer Weekly with the exception of the staff of IPC Business Press Ltd, any printers employed by them or the near relatives of any such persons.
3. The solution of each puzzle will normally be published in the issue three weeks after the puzzle has been published.
4. Winners will receive their prizes during the month following the competition.
5. The decision of the editor on the interpretation of the rules and conditions and on all matters relating to the competition shall be final. No correspondence will be entered into.

## Puzzle Answer

145 = 11 + 41 + 51

## BOX NOS.

Box number implies should be addressed to

Box No 2 Computer Weekly Dorset House Stamford Street London SE1 8LU

## THE IRISH RECRUITMENT FEATURE, SCHEDULED FOR APRIL 10th, WILL NOW APPEAR ON MAY 15th

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Applications are invited for the above post in the Computer Section of the Chief Executive's Department based at Highfield House, Carlton Road, Work-up.

Candidates for the post must have at least 12 months' Cobol programming experience. Knowledge of communications, data access, basic programming and Group 3 operations will be advantageous. A proportion of the duties will be devoted to maintaining existing and introducing new systems in conjunction with other Nottinghamshire District Council.

Application forms can be obtained from the Personnel Office, Central Depot, Hunsford Lane, Carlton Park, Worksop, Notts, S81 0TB, telephone No. 476631, extension 258, and should be returned by Monday, 16th April, 1980. (422)

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Applicants should have a minimum of five O-levels, possession of A-levels would be an advantage. Knowledge of electronic workshop practice and/or computer operations would be a definite advantage.

Starting salary within the range of £2815-£4975 p.a. (under review). Applications giving age, qualifications, experience and references to Mr. P. M. BLACK, UNIVERSITY OF LONDON COMPUTER CENTRE, 25 GUILDFORD STREET, LONDON, W6C 7UL. Tel. No. 01-495 5400. (442)

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Applicants should have considerable experience in real time and on-line systems using mini computers. A good knowledge of high level languages such as COBOL is also desirable.

Relocation allowances are payable and some initial help with temporary housing may be available.

**SENIOR SYSTEMS ANALYST/PROGRAMMER**

Salary in the scale - £5,721 to £7,000 per annum (currently subject to review)

The successful candidate will form part of the Force computer project team of the Research and Development Department. He/she should have at least 3 years' experience in this work, preferably in real-time systems with a good working knowledge of a high level language, such as COBOL.

He/she will be required to assist in the evaluation, design and implementation of the proposed distributed processing operational management system under the direction of the Project Manager, and other computer systems operating within the Force.

Relocation allowances are payable and some initial help with temporary housing may be available.

Applicants should have a minimum of five O-levels, possession of A-levels would be an advantage. Knowledge of electronic workshop practice and/or computer operations would be a definite advantage.

The Chief Constable, Devon and Cornwall Constabulary, Administration Department, Midsummer, EXETER EX2 7YU. Telephone: Exeter 2161. Fax: 273. Closing date for completed applications: 18th April, 1980. (446)

## Coláiste na hOdscoilte Corbairigh

### STATUTORY LECTURESHIP IN COMPUTER SCIENCE

Applications are invited for the above vacant office.

The salary range is: £9,283-£12,185 p.a.

Application form and further details of the post may be obtained from the undersigned.

Latest date of receipt of applications is Friday, 2 May 1980.

M. E. Kelleher, Secretary. (439)

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